

George Landis Arboretum NEWSLETTER

Volume 12 • Number 1

Winter 1993

Trustees Develop Long Range Plan

Behind the scenes, the Board of Trustees has been hard at work formulating a long range plan for the Arboretum. A day-long retreat on October 17, facilitated by Doug Sauer of the Council of Community Services, began with reports from the various Board committees (Nominating, Executive, Horticulture, Education, Membership & Fundraising, Buildings & Grounds). Problems and areas of special need were identified, and based on these priorities were established for the proposed objectives. Finally, estimates of resources needed to achieve the established goals were detailed. Broadly stated the goals and objectives for the period 1993-97 are:

- develop written policies and procedures for finances, fundraising, personnel, collections (living plants, herbarium and library)

- develop a comprehensive marketing strategy

- broaden membership base, with a goal of 1,000 in five years

- encourage greater volunteer participation through special programs, training and benefits

- improve communication with members, encourage members to participate on committees

- establish strategies for periodic planned giving drives for the specific purpose of increasing the endowment fund

- modify buildings to allow full utilization (e.g. winterization of Meeting House)

- address grounds problems, particularly drainage of wet areas and improvement of trails and markers

- continue to expand and improve education program

Arboretum Hosts Star Parties

The Landis is a beautiful place to visit by night as well as by day. Its dark skies and clear horizons make it an ideal place to enjoy the beauty of the night sky.

Since January 1991 the Albany Area Amateur Astronomers have held regular public "star parties" at the Arboretum. You may have seen them mentioned, perhaps you attended one, or maybe you wondered what a star party was.

A star party is a chance for you to see some of the wonders that grace our night skies through a variety of telescopes provided by astronomy club members. The viewing usually starts with the showpiece objects—the brighter galaxies, clusters, nebulae, and planets (when visible). Later on there is time for your requests and some of the more elusive but interesting targets.

A new star party feature will be an introductory program. This will be held under the stars, so bring a blanket or towel to sit on. You will get some hints for using the telescopes and enjoying the star party, and a naked eye tour of some of the constellations, including a few myths and legends about them.

Our next star parties will be on Friday, January 22 (cloud date January 23) and Friday, February, February 19 (cloud date February 20). These both will begin at 7:30 p.m. (NOTE: times change with the season!) and are held in the field by the Meeting House. They are cancelled if the skies are mostly cloudy, and if clouded out we will try again on the cloud date. For these winter parties bring plenty of extra warm clothing!

Continued on Page 4

Flower Arranging in the British Tradition

With

Sheila Macqueen

VIDEOTAPE

This professional video of Mrs. Macqueen's November demonstration will please her fans everywhere, especially those who were unable to attend. Her charm and talent make this video as much a pleasure as watching her in person.

\$25 for Arboretum members

\$30 for non-members

Call the Arboretum office to reserve yours today! (We can mail it for you, for a slight additional charge.)

At The Garden

Director's Report

Through the falling snowflakes I can see the shell pink blooms of *Viburnum farreri*. The fragrant viburnum exhibits the fascinating habit of consistently opening one half its flower buds anywhere from October through December. The remaining half open in the spring just prior to the leaves unfolding. Our native witch hazel, *Hamamelis virginiana*, is also blooming now, its pale yellow flowers providing bright spots throughout the woodland understory and along forest edges where it thrives. The winter season has its many unique gifts. For me, however, seeing these plants blooming now

The George Landis Arboretum Newsletter

is published quarterly for members of the Arboretum. The GLA's mission is to provide natural history and horticultural education through programs and through its plant collections.

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Pamela H. Rowling

makes the promise of spring seem just around the corner.

Our final programs of fall met with great success. The Fall Gardeners Workshop and Forestry for the Layman were both filled to capacity, and an enthusiastic audience filled a lecture hall at the Desmond to see renowned British floral arranger Sheila Macqueen.

I am very pleased to announce that George Steele will be joining us in 1993 as Science Educator. An Amsterdam resident, George has worked for many years with DEC as an environmental education specialist. His leadership roles in many of our regional outdoor associations (NYS Outdoor Education Association, American Camping Association, and National Science Teacher Association, to name a few) make him exceptionally well qualified to fill our needs. His previous work history has stressed experiential or hands-on learning. This position is again funded by the Zoos, Botanic Gardens and Aquariums Grant Program, which is administered by NYS Office of Parks, Recreation and Historic Preservation for the Natural Heritage Trust. Anyone wishing to learn about outdoor education is encouraged to volunteer with George—it would be a unique opportunity to learn under this experienced and talented professional.

With the leadership and skills of horticultural intern Deborah Coyle and volunteer David Vermilyea our property is being mapped out (see "Putting Things in Their Places"). Our eventual goal is the mapping, locating, verifying, and labeling of each plant in our collec-

tions. Our files will be expanded to provide more complete information about each plant (name, nativity, source, habit, blooming period, etc.) Improved recordkeeping combined with weather records will enable us to develop more accurate ideas about plant hardiness and landscape performance. We will also be developing a system that will enable quick locating of specimens on the grounds. Our greenhouse facility will allow us to propagate many plants to add to our collections, and improved recordkeeping and planning will provide the mechanism to make these accessions meaningful.

Recently when faced with limited funds and the very real need of a heating system for the library and greenhouse, we were again aided by our friends. A number of people have donated their resources, time and expertise to make this dream a reality. Members Kathie and David Lippitt and Dr. and Mrs. Robert Raymond contributed funds to get things started. Bill Kowalski and Wallace Johnson contributed their professional services to see this project through to completion. The capability of maintaining more even temperatures will not only allow production of plants but will make possible the computerization of our library, herbarium and plant collections during the winter season. Each of the projects undertaken is enormously time-consuming and would be impossible without the commitment of dedicated volunteers. The Arboretum is the dream of a single man fueled and maintained by members and friends who share his noble vision and are willing to work together toward a common goal; a garden of trees and shrubs, open to all, devoted to education in botany, horticulture and natural history.

New Volunteer Orientation

Ever thought about volunteering at the Arboretum, but needed a little something to entice you?

Come, meet the gang at our new volunteer orientation. It's a good way to find out what we do. Besides meeting the people involved and hearing about different kinds of work needed, we'll have a guided tour of the Arboretum which will introduce you to a whole new point of view of the GLA! After lunch we'll have our first Volunteer Workshop for those interested in learning about dormant season pruning and a practice session immediately following. You are welcome for any or all of the day, but if you're interested in the workshop please call to register.

March 6 - Work Shop/Work Day

- 9:00 Coffee and new volunteer orientation
- 10:30 Tour of the Arboretum (dress for the weather!)
- 12:00 Brown bag lunch (we'll provide hot beverages)
- 1:00 Pruning workshop, followed by supervised practice

Please call the office to let us know to expect you.



George Landis Arboretum

P.O. Box 186 - LAPE ROAD - ESPERANCE, NEW YORK 12066-0186 - (518) 875-6935

VOLUNTEER CALENDAR 1993

- MAR 6 * **Work Shop/Work Day:** 9:00 a.m., Coffee hour, new volunteers introductory talk, sign-ups for upcoming events, 10:30 tour of arboretum, 12:00 lunch, 1:00 pruning lesson for volunteers only, 2:00-3:00 supervised pruning. Tools: pruners, loppers. Reservation required for workshop.
- MAR 12,13,14 * **Flower Show, Albany:** 4-hour shifts all 3 days, call office to sign up for a shift and your entry pass.
- APR 3 * **Work Day:** 9 a.m., rhododendron cages off! deadwooding, clearing beds, collecting fallen branches. Tools: wirecutter.
- MAY 1 * **Work Day:** 9 a.m., multitude of spring gardening tasks. Tools: both kinds of rakes, various hand tools.
- MAY 15 * **Rare Plant Sale** Thur./Fri, pricing, set-up; Sat. final plants out, sales, plant info, traffic direction
- JUNE 5 * **Work Day:** 9 a.m., weed and mulch lilacs, peonies. Tools: your favorite weeding tools.
- JUNE 12 * **Perennial Sale** Fri. set up, pricing; Sat. final set up, sales, plant info, traffic direction
- JULY 10 * **Work Shop/Work Day:** 9 a.m., Lilac workshop, deadheading lilacs, weeding, weed wacking. Tools: pruners, or weeding tools/whackers (if not interested in pruning). Reservation required for workshop.
- JULY 21 * **Volunteer Recognition Barbecue--party time!**
- AUG 7 * **Work Shop/Work Day:** 9 a.m., Perennial Workshop, weeding and divisions of perennials. Tools: weeding tools/whackers. Reservation required for workshop.
- SEPT 11 * **Work Day and Potluck Supper** - 9 a.m., end of season, putting cages on rhododendrons, clean-up. Tools: wire cutters, weed whackers.
- OCT 2 * **Work Day:** 9 a.m., fall clean up, finish putting cages on the rhododendrons. Tools: wire cutters.

SIGN UP NOW

to work at the Flower Show, Rare Plant Sale or Perennial Sale
(and save us dozens of phone calls trying to find help!!)

General Information on Volunteering at the Arboretum

Volunteer Coordinator Florence Grimm can be reached at 842-7436, or you can leave messages for her at the Arboretum office, 875-6935. Please feel free to call Florence if you have questions about volunteer work at the Arboretum.

To sign up to work at an event: Call the office, 875-6935.

Logbook Be sure to record your hours worked (no matter what kind of work it is) in the Volunteer Logbook. Not only is this important documentation for the Arboretum, you can claim your mileage on your tax return and the logbook is your proof.

Field Work in general: Work gloves are always recommended, and if you can bring your own tools you will find them preferable to work with. If you are interested in doing gardening and other outdoor work at times other than the scheduled work days, call Florence to set it up.

Work Days Please note that you do not need to be experienced at the proposed task or "big and strong" to participate in the work days. Most of the tasks are easily accomplished by a group working together, and there is always a variety of options, including--sometimes--work in the greenhouse or office. Call ahead if you're curious, together we can plan what you'd like to do. Bring tools if you happen to have the recommended tools for the day, but don't worry if you don't have them.

Work Shop/Work Days You'll see three "different" workdays in this year's schedule. In response to volunteers' requests to learn new things, we're offering three workshops (for volunteers only) in exchange for your work/practice time immediately following the class. Registration is required for these workshops. If you're not interested in the workshop part of the day, come at 9:00 and work with a separate group.

Discounts Volunteers who have worked ten or more hours this calendar year qualify for discounts on all Arboretum education programs. The discount is usually 50%, but may vary depending on our costs. Don't be shy to take us up on this offer--it's just one of the ways we can say thank you!

Garden Exotica

Chamaecyparis pisifera: Plant of a Thousand Faces

by Andrea Modney

Chamaecyparis pisifera...
Whose head hasn't been turned by the Golden Thread Leaf False Cypress!

True, there are those who detest its yellow and green foliage, but I must represent the opposite extreme as there seem to be three of them in my garden. And although I do pick up the odd Latin plant name, I had wondered why *C. pisifera* rolled so readily from my tongue. Eureka! It is because there are two other *C. pisifera* in my garden, neither of which bears any resemblance to the others. Yet they are as closely related as peas in a pod (*pisifera* means "with pea-like fruit", though they sel-

dom bear).

These various shrubs which so obviously charmed me at the nursery, and have added so much to my year-round garden pleasure, are but the tip of the iceberg, it seems. Wyman's *Gardening Encyclopedia* states that there are 26 varieties of *C. pisifera* listed by American nurserymen. From the tree-sized stature of their Japanese ancestors to the slow-growing dwarf, this species offers something for every garden. Suitable for sun or light shade, their crowning glory is that they are hardy to Zone 3.

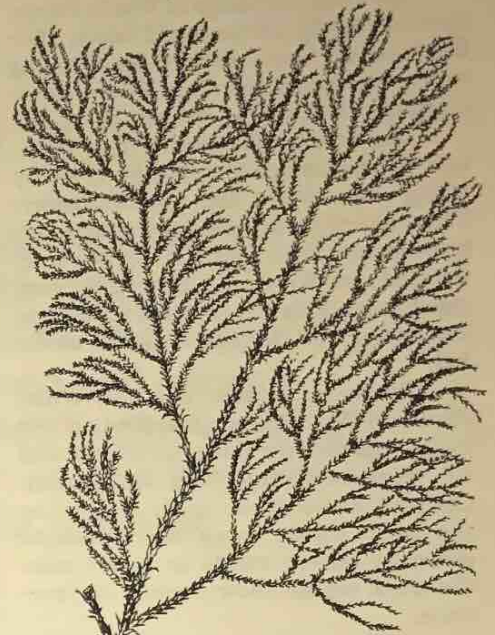
Chamaecyparis pisifera, the Sawara False Cypress, shows great variety within three basic plant types—'filifera', 'plumosa' and 'squarrosa'.

The **filifera** group is named for the thread-like branches of close pressed leaves which form a mound of delicately arching branchlets. Such is *C. pisifera* 'Filifera Aurea', the Golden Thread Leaf, the optimistic countenance I have thrice placed in my landscape.

The designation **plumosa** describes the feathery plumes of foliage softly flaunted by the golden yellow *C. pisifera* 'Plumosa Compressa'.

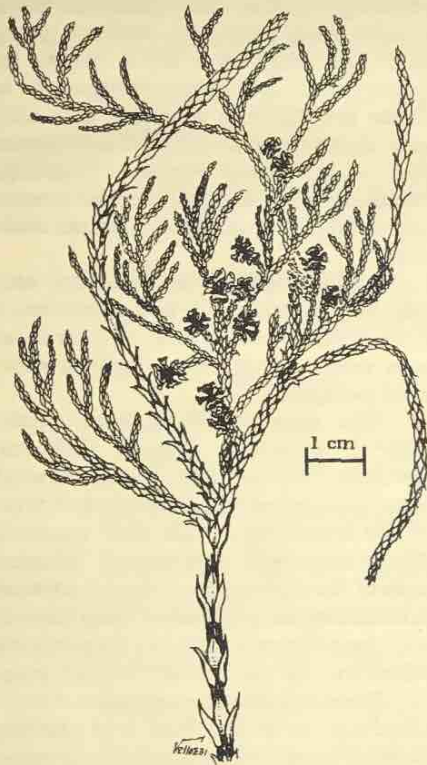
The third group is **squarrosa**, which name alludes to the way the leaves stand out at right angles on the branch. This habit gives the gray-tinted leaves a soft feel and look, hence the common name of Moss Sawara Cypress. The popular *C. pisifera* 'Boulevard' is a darling moppet in my border with its soft steel-blue foliage.

There is a down side to these wonderful plants which I feel constrained to mention simply because so many books do. It is that, in the course of decades, some of these shrubs may become too large planted in front of a window, or may develop into lanky



C. pisifera

var. *plumosa*



C. pisifera var. *filifera*

trees. And though the brownish-red exfoliating bark of these older plants is a valued feature, the bottom line is that they may need some pruning. But, who doesn't?

Taken together, the *Chamaecyparis pisifera* species and cultivars are the plants of a thousand uses. A convivial mixer with herbaceous plants, *C. pisifera* adds great charm to the winter landscape. Used as specimen, foundation, shrubbery or mixed border, these plants can do it all with personality plus.

So, find the *Chamaecyparis* that's right for you...and just love it!

Drawings: T. Vellozzi

Volunteer Opportunities

Gift Shop Coordinator

Responsible for recruiting and scheduling volunteers to staff shop.

Gift Shop Staff

Clerks to staff shop, open late April to October, weekend and weekday hours available.

Tour Coordinator

Plan bus trips to gardens and shows (using resources on file), make travel arrangements. Needs to be planned far in advance, but most work can be done at home and you get to go on each trip for free.

If you would like to know more about any of these jobs, please call Pamela Rowling at the Arboretum office.

by Tom Burbine

Q. I have a hedge of White Pines, approximately 30-year-old trees. For the last two years they've been losing excessive amounts of needles, especially on the interior. What's going on?

A. During September into October, the inner or older foliage of many evergreen conifers dies and falls away. This occurs in the pines, spruces, arbor-vitae, and junipers. It is a perfectly natural occurrence since each year these trees grow a new set of needles in the spring and drop their oldest in the fall.

In some plants, like the White Pine and White Cedar, the dying of the foliage takes place rather suddenly and the trees look unhealthy, which usually lasts a short time only. As soon as the dead leaves have been brought down by strong winds or heavy rain, the trees regain their normal appearance.

This natural leaf fall may be distinguished from cases of severe leaf damage due to disease by its uniform appearance over the whole tree and its occurrence on neighboring trees of the same kind. It is usually confined to the oldest or innermost leaves or needles.

Q. Can you tell me why my Rhododendrons form brown along the edges of the leaves in the winter?

A. Rhododendrons, like other broadleaf evergreens, are subject to winter burn or scorch, especially if we have an "open winter" with little snow

cover for our plants. It's caused by strong winter winds drying out the leaf surface when the soil is cold and the roots are unable to move water to the exposed leaves. Symptoms of water loss are the browning or scorching of the leaves at the tip and along the outer margin or sometimes between the midrib and margin of the leaf blade.

Ways to prevent such problems are:

- Plant broadleaf evergreens in spots protected from the wind and southern exposure.

- Water the ground well before the ground freezes in the fall to provide moisture for winter conditions.

- Mulch evergreens in the fall after the non-evergreen plants have lost their leaves. This mulch will insulate the soil from sudden temperature changes, and will help to reduce the depth of frost penetration. This will also be an ideal mulch for spring and summer dry conditions.

- Temporary windbreaks or sunshades can be placed around rhododendron plants to moderate the effects of midwinter winds or bright sun conditions.

Tom Burbine is a Cooperative Extension Agent, working in Montgomery County. Send him your questions—he thought this was fun! Mail them to the Editor, here at the Arboretum.

Putting Things in their Places

Visitors to the Arboretum this fall have noticed a new activity different from the planting, weeding, and mowing often underway. A small band of intrepid explorers has been seen following a compass-directed bee line up hills and over ledges, slashing through brambles and vines, slogging through sloughs, and communicating with pithy or arcane shouts; "Ninety seven and a half east", "West a foot", "Up a hair", "Plant it." Their equipment is simple—compass, hand level, sighting target, telescoping rod, and measuring tape—and much of it is improvised.

The objective of these dauntless surveyors is to map the Arboretum property so that all specimen trees, shrubs and vines, as well as group plantings and flower beds, can be located precisely. The first goal is to divide the 96 acre property into one-acre sections marked at each corner with a numbered stake. Plantings within each section will then be located accurately and plotted on a small scale map.

The maps of the one-acre sections will provide a permanent record of Arboretum plants and of their locations, greatly facilitating study by interested persons.

The mappers—Deborah Coyle, Pamela Rowling, Tressa Vellozzi, Lucinda Willemain, and David Vermilyea—plan to complete this winter the mapping of one-acre sections within the most intensively planted parts of the Arboretum (the southwest quadrant of the property). They hope to have the sections of the entire property staked out by the middle of next year.

Determining the locations of individual plants in the field and plotting these locations on the small scale maps for the individual sections is expected to be completed during 1993.

-Dave Vermilyea

Membership Program Changes

As of January 1, 1993, several changes in the membership levels will become effective. The changes are necessary to support our increased level of lectures and workshops and for the continued maintenance and expansion of our collections.

Membership benefits will expand in the New Year, too. Member discounts will apply to lectures, programs, plant sales, and all purchases at the Acorn Shop. The new "Family" membership extends benefits to the members of your immediate family.

In addition, a portion of each membership dollar will be placed in the endowment fund to provide for the future of the Arboretum.

Star Parties

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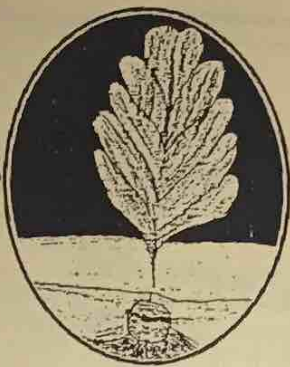
For further information, or if in doubt about weather conditions, call Alan or Susan French at 374-8460.

(For Friday star parties there will be a weather message on the Arboretum answering machine.) We hope you will join us under the beautiful winter skies!

-Alan French

Employment Opportunity Manager, Acorn Shop

This part-time position is paid a percentage of net profits from the shop; manager is responsible for ordering, inventory, bookkeeping including sales tax reports and bank account, working with gift shop coordinator on training shop volunteers and general management of the shop. Call Director Pamela Rowling for more information.



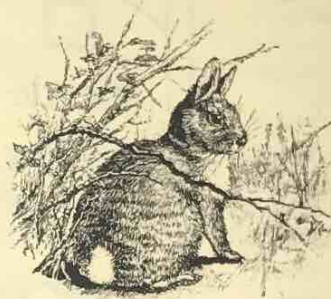
In the Shade of the Oak

WINTER EXPLORATIONS

Winter is a time to wonder how plants and animals at the Arboretum adapt to snow, cold and drying winds. Snow is important for plants and wildlife. Red squirrels near the Lape farmhouse make tunnels in the snow to store food and escape from predators. Ruffed grouse, a bird that prefers to stay close to the ground, dives into snowbanks for protection against the cold. Snow helps keep many mammals warmer in the winter by insulating them against the wind.

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Unfortunately for the trees and shrubs planted at the Arboretum, deep snow helps deer and rabbits eat buds and twigs that are normally out of reach.



When the evergreen trees and shrubs are covered with snow they provide shelter for birds during times of severe cold, wind or storm. Other animals take refuge in the shallow snowfall under the conifers. If you visit the Arboretum after a snowfall, look for animal tracks near trees and stone walls. Even in the "dead" of winter there are many animals that stay active. Each tree or shrub you look at has already prepared leaves and flowers for next spring.

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Snow does not affect plants as much as freezing temperatures and lack of water. Since snow is frozen water, plants are not able to use it. Evergreen trees and other plants that stay green all winter like ferns and mosses have special ways of adapting to winter weather. Pine trees have thin, small leaves (needles), coated with wax to keep water in the leaves. Some plants are able to grow and even flower under the snow! Other evergreen plants make food in their leaves if the temperature climbs above freezing. Next time you pull on your mittens and coat think about the plants and animals in the snow.

Winter Nature Hunt

Listen For —

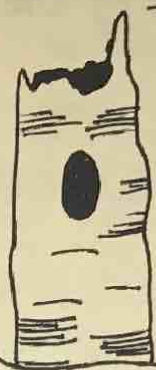


Dripping Icicles

Wind in Trees

A Woodpecker Tapping

Feel —



Tree Bark

An Insect Gall



Smell —

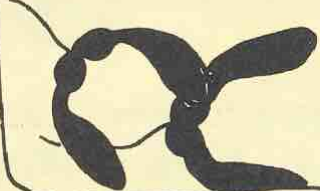
Evergreen Tree Needles



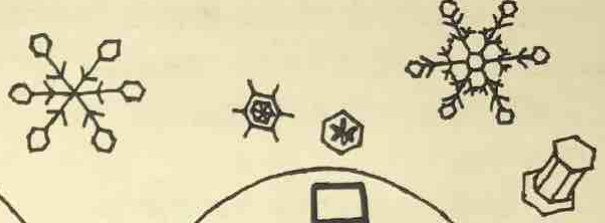
Winter Air

Take a Close Look At —

Seeds laying on the snow



Snowflakes

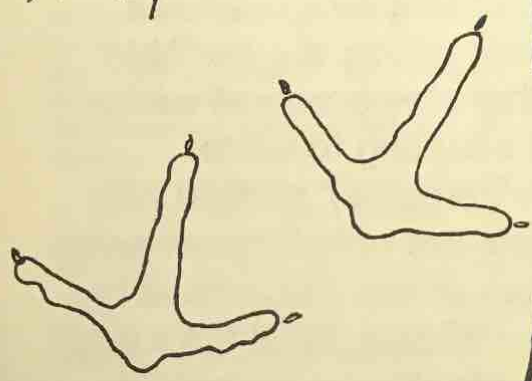


An Acorn That's an Insect Home

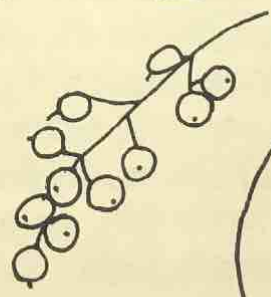


Can You Find —

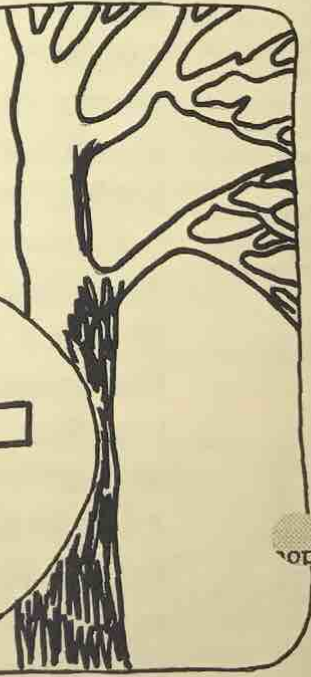
Turkey Tracks



A Fruit Eaten by Birds



A Tree Bud



This Native Plant

3,4 *Betula Papyrifera*: Canoe or Paper Birch

by Jane Bystry Weyers

White bark sharply contrasted against the darkness of surrounding vegetation—this is the picture of paper birch standing in the northern forest. Without question, it is the bark that causes landowners to spare this tree while clearing its neighbors, a fascination with whiteness similar to that of albinos in the animal world. If you reach out to the smooth bark, feeling the dark lenticels sprinkled over the surface, your fingers come away covered with white powder, also characteristic of the species. With age and exposure to the sun, horizontal strips of bark peel from the tree, fringing along the edge. Curling away from the trunk, the golden underside of the strip is revealed. Even after the death of a tree, the covering remains strong, trapping sap and hastening decomposition of the inner wood. Remember how often you have come upon a birch log in the woods, crumbling inside, held together by a tough band of white bark.

Although our perception of this tree is dominated by its stunning bark, the appearance of the entire tree is pleasing. Full grown, it may range from 60'-90' tall, pyramidal in shape, graceful due to the open nature of the foliage. Leaves are alternately arranged along the twig, 2"-3" long and ovate. Abruptly pointed and finely serrated, they create a sense of delicacy. Smooth and dark green above, they are lighter below, marked by dark glandular dots. In autumn foliage turns a soft yellow. In spring flowers are noticeable because they appear before the leaves, male and female separate, but on the same tree. Staminate (male) catkins are longer, 3"-4", brownish, soft and pendulous, clustered two or more together. Pistillate (female) flowers are shorter, erect, 1"-1.5" long, with red styles. The fruit is a cylindrical cone of heart-shaped, winged seeds.

We live in the southern end of the paper birch range. Following a line from Long Island, across northern Pennsylvania, northern Nebraska, to northwestern Washington, paper birch extends northward to inside the Arctic Circle. In extreme climates, this plant

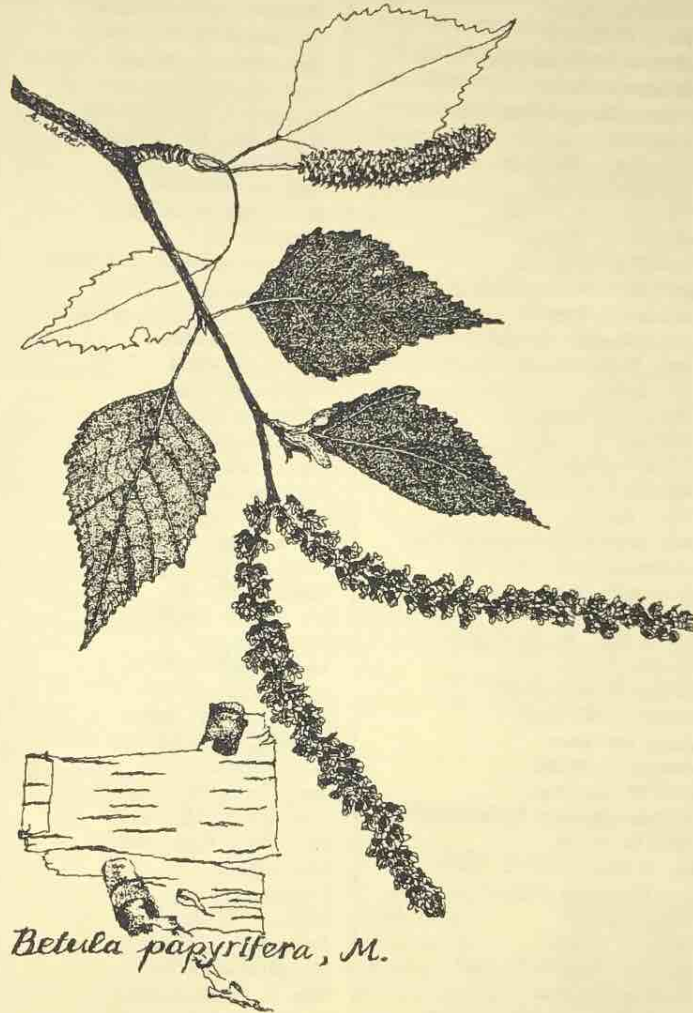
of-Gilead (the latter a member of the genus *Populus*). Birch bark sometimes served as a covering for a teepee or lodge. I imagine that inhabitants of such shelters were watchful, as bark also served for kindling fires and was sometimes rolled and burned as punk

to ward off mosquitos. Finally, horns for calling moose were made by fashioning tubes of bark approximately 15" long and 3"-4" in diameter at the mouth. White men sometimes used the bark as waterproofing beneath cedar shingles. Older sources note (from a time before "taking only photos" became the rule) that ladies and children collected the bark to use as writing paper.

It is this temptation to strip the bark which limits the use of paper birch in public parks or gardens. Where bark has been removed a dark scar replaces the original white. Otherwise, this native is a good landscape plant, preferring moist soil and the light of open areas. It is fairly resistant to disease, occasionally becoming infected with insects such as the bronze birch borer or one of several fungi. When well-watered, fertilized and kept free of overshadowing trees, the vigorous tree is most likely to resist disease. Removal of leaf debris and infected plants will help maintain a healthy stand of trees. Paper birch is one of the trees likely to colonize a newly opened field, hardy and fast growing. In nature it is likely to be overgrown by the

shade tolerant species sprouting in its own shade. Eventually it loses the competition and disappears from the mature forest.

Birch can be propagated from cuttings of actively growing shoots (timing is essential) or you can gather seed at maturity. Sow outdoors in fall, or stratify three months at 40 degrees and sow in light sandy medium, pressed firmly into the soil. Keep moist and out of hot sun until germination occurs.



Drawing by Ann Jaster

survives in bush form. Historically, Native Americans in this area used this unusual bark to serve as a kind of skin in several applications. Probably everyone knows that strong, relatively lightweight, canoes were fashioned. Strips of bark were sewn together with tamarack roots, stretched over a frame of white cedar or arborvitae and tied. Seams were caulked with resins of species such as pine, balsam, or Balm-

How Does Our Garden Grow?

New Members (*) and Renewals September-November 1992

Patron

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Rosendale Garden Club*
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Park
Gade Farm
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1992 Annual Campaign

Campaign Total to date: \$4,378

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Volunteers

Volunteer Notes

Well over 3,400 hours of volunteer work were logged in 1992, an impressive amount of time and effort graciously donated by good people! The core group has developed quite a sense of camaraderie, making the group effort of Work Days a lot of fun. Some folks who have the time have become weekday regulars; five of these have amassed 1,400 hours betwixt them, an extraordinary gift to the Arboretum.

Most of our 84 volunteers don't have quite that much time to spare, but come when they can, be it once a year to work at an event or once a month to help out on a Work Day. And it all adds up to work performed that otherwise would have gone undone, every bit of it important to this public garden on a hilltop in Schoharie County!

In response to volunteers' requests for training we have planned three work shops, in conjunction with work days, which you will see on the 1993 Volunteer Calendar. In each workshop one or more experts will be on hand for an introductory lesson on the topic and then we'll work together and learn more as we go.

I encourage you to take advantage of the volunteer benefits we're offering... "Active" volunteers (those who have worked at least 10 hours this calendar year) qualify for discounts on all our educational programs. Active volunteers also receive invitations to the Recognition Barbecue in July and our Christmas party.

We know we depend on volunteers for a lot, and we try to thank you in all the ways we know how. Don't hesitate to give us your suggestions—volunteer input has been fundamental in many of our projects and has helped us in all aspects of setting up a volunteer program.

This winter begins Florence's third year as Volunteer Coordinator, which has turned out to be practically a part-time job, and she's a volunteer, too. Many of her hours are spent telephoning new volunteers, preparing for volunteer projects and programs, as well as maintaining communications with ALL our volunteers. She has also joined the Volunteer Administrators Association of the Capital Region and brings back all sorts of useful advice from their informative meetings. (Since she doesn't happen to be writing this column, this time, I can take the liberty of praising Florence for her tremendous effort to pull our volunteer program together. Her work has brought us out of the dark ages!)

We look forward to a happy and productive new year, and hope to see all the familiar faces and maybe some new ones, too! Our first volunteer event of 1993 is the multi-purpose orientation/work shop/work day on March 6. Anybody who thinks they might be interested in volunteering, but wants to find out more about it, should put this date on their calendar! For you old-timers, why not stop in for the coffee hour and join us on the tour? See you in March!

Thursday

Just another gray winter day at the Arboretum; visitors down to about zero, gardens put to bed for the season, programs over. Not much happening...NOT!

Dave's been here since 8:00, gearing up for another day of surveying for the mapping project. Natalie's at the computer keeping our records tidy, a task she works at 2-3 days per week during the winter months. Debbie arrives to join the survey crew and shows us the latest printout of the new "computerized" map (the first few dots signifying trees have appeared!) Two trucks arrive bringing all the parts that will go into making a heating system for the Library/Greenhouse complex—volunteer Bill and his partner Tim will be doing the installation over the next week or so as their schedules permit. Lucinda joins the map crew at noon—a new recruit to the project, her plant ID skills will be very useful when they get to the point of identifying each tree or shrub, labeling it, and locating it on the new grid. And in the early afternoon Marie arrives to send yet more thank you notes and gets pulled into yet another mailing project...*Nope, we never see anybody out here in the winter. Just the two of us plugging away.*

(Editor's note: Pamela and Amy report that they don't particularly miss the "old" days four years ago when there really was nobody around in the winter. And they thank the volunteers, those named above and many others, who make their winter days bright!)

George Landis Arboretum Membership Form

Yes I would like to become a member:

- New Member
 Renewal
 Senior/Student \$15
 Individual \$25
 Family \$35
 Contributor \$50
 Supporter \$75
 Patron \$125+

- Garden Clubs and Businesses:
 Group \$35
 Contributor \$50
 Supporter \$75
 Patron \$125+

Please mail to:

Director
 George Landis Arboretum
 P.O. Box 186
 Esperance, NY 12066

Name _____

Address _____

Make check payable to *Landis Arboretum*.
 The Arboretum is a non-profit organization. Donations and membership fees above \$15 are tax deductible.

Donation to the Arboretum

Endowment Fund:

- In addition to membership, I would like to contribute to the endowment fund. I don't want to join at this time but would like to contribute to the endowment fund

- \$5 \$50
 \$10 \$100
 \$20 \$Other _____

I would like to volunteer. My daytime phone number is _____
 (Please circle type of work you are interested in, or write in your suggestions.)

Field work: mowing, weeding, pruning, etc.

Office Work/Projects: word processing, writing (newsletter, other publications), fund-raising, herbarium/library, mailings

Events/Programs: Tour guide, adult education, youth education, plant sales, special events.

Committees: Nominating, Buildings & Grounds, Development, Education, Horticulture

Gardener's Workshop

Soil Compaction and Grade Alteration Around Trees

by Anne Best

Few people consider the fact that the small rootlets of a tree absorb not only water but air. The addition or removal of soil may seriously disturb the delicate relationship between roots and soil and can result in considerable damage or death of the tree.

Raising the grade around trees is often necessary in new land developments. Let's look at why trees suffer from soil fills. Air (primarily oxygen) and water are essential for normal functioning of roots. Soil microorganisms, necessary to break down organic matter that serves as food for roots, also need air. In addition, when air is lacking, certain gases and chemicals increase and become toxic to roots. Toxins produced by anaerobic bacteria may be more harmful than the damage resulting from asphyxiation due to lack of oxygen. The tree roots have become established within a certain area in the soil where the essential materials are present. The moment a blanket of soil is placed over the existing soil a marked disturbance occurs in the balance between the roots and these essential materials. As a result, the roots die, and the symptoms may appear within a month, or they may not appear for several years.

Raising Grades

1. When the soil must be raised only 2-3 inches, just apply sandy soil of that depth to the topsoil already in place. The more porous the soil the better. As a rule, the application of a layer several inches deep of gravelly soil, or even the same kind of soil in which the tree has been growing, will do no harm. In these cases, trees eventually become accustomed to the

new situation by producing additional roots near the surface.

2. Where the fill is moderately deep, the soil directly around the trunk is removed to the original level and a dry well is constructed. Holes are dug to the original level every few feet over the entire root area, and 6-inch bell tiles or crushed stone are placed in them.

3. Where the fill is deep or where a particularly valuable tree is involved, more work and expense are needed. (See illustration). To prevent people from falling into the hole, the area between the trunk and the stone wall should be either covered with an iron grate or filled with a 50-50 mixture of crushed charcoal and sand. This second suggestion will prevent not only filling with leaves (which would eventually impair the efficiency of air and water drainage) but also prevent rodent infestation and mosquito breeding.

Lowering Grades

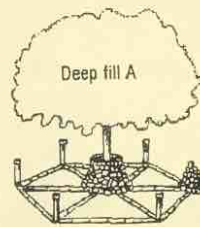
Although removing soil around trees is not so disastrous as increasing

the soil level, four changes do take place: healthy topsoil is removed, feeding roots are exposed to drying out and low temperature injury, roots below the removed soil may be damaged, and the water table is changed. Most trees, however, will not suffer when only a few inches of topsoil are removed since the roots soon become adjusted to the new conditions.

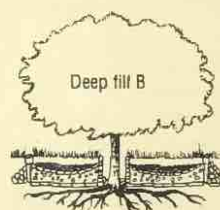
Injury to the tree as a result of lowering the grade can be reduced to a minimum by avoiding damage to the roots. Leaf mold, peat moss and rotted manure should be incorporated in the remaining soil to increase water holding capacity. If large roots are cut or damaged a few branches should be pruned to maintain the proper balance between these parts. Fertilizers should be applied to the undisturbed areas.

Under some conditions injury can be reduced by terracing the new slope around the tree, rather than cutting soil away in a uniform gradient. (see illustrations, adapted from a Maine Forestry Department Publication).

Raising Grades Around Trees



Deep Fill A: Preparation of well and tile for deep fill of B. Well 1-2 ft. free of tree. Radial tile from base of well to circular system beneath ends of branches. Vertical tile held upright by mounds of rock.

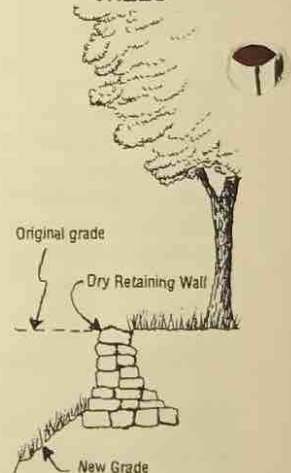


Deep Fill B: Completed deep fill 5-6 in. loam at top of fill, remainder of fill consists of 2/3 large rocks at base topped with 1/3 small rocks. 2-in. crushed rock at bottom of well prevents clogging of radial tile openings.



Shallow Fill: Rocks extend one foot from the tree at same level as final grade. Rock fill tapers off to 1/4 height of final fill beneath ends of branches.

LOWERING GRADES AROUND TREES



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